



Comprehensive Marketing Analytics

MASTERS PROGRAM: M.Sc. Data Science

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Introduction

The company selected for this project is a retailer of consumer electronics with a broad product line that includes gaming, home and kitchen appliances, mobile phones and gadgets for the home. The company is the representative for several well-known brands, such as Apple, Sony, and Philips. It offers goods that improve convenience and lifestyle while trying to appeal to a wide spectrum of customers with different tastes and spending capacities.

Objectives of the Project

The following are this project's main goals:

- To use clustering algorithms to identify discrete client segments based on behavioural and demographic data. To adapt marketing campaigns effectively, it is necessary to create thorough client profiles that capture the distinct requirements and aspirations of each category.
- To create unique marketing plans for every identified client profile. To improve customer engagement and satisfaction, the objective is to match product offers and promotional activities with the tastes and behaviours of each segment.
- Gathering input from a representative group of customers allows for the measurement and analysis of customer satisfaction. entails figuring out a customer happiness score and analysing the outcomes to pinpoint areas where the customer experience must be improved.
- To ascertain how various product attributes—like cost, and brand—affect consumer choices, one must do a conjoint analysis. The analysis's conclusions will guide marketing and product design choices, guaranteeing that the company's products closely reflect what customers want.
- To maximise website and marketing efforts, obtaining insights about user behaviour and creating excellent content to draw in and engage audiences, improve SEO, and increase traffic.

- Creating an efficient email marketing campaign to boost engagement and conversions.
- Developing engaging social media content to successfully reach and interact with target audiences.

1.Customer Segmentation

1.1-Data Generation Process -To perform customer segmentation, we generated artificial data for 500 customers with the following attributes:

- Customer ID: Unique identifier for each customer.
- Age: Age of the customer, randomly sampled between 18 and 70.
- Gender: Gender of the customer, randomly sampled between "Male" and "Female".
- Purchase Frequency: Number of purchases made by the customer, randomly sampled between 1 and 50.
- Average Spend: Average amount spent per purchase by the customer, randomly sampled between 20 and 500 euros.
- Preferred Category: Preferred product category assigned based on age groups or randomly chosen among "Mobile", "Home Appliances", "Kitchen Appliances", and "Gaming Appliances".

1.2- Segmentation Technique and Results

- We applied the k-means clustering technique to the scaled data, selecting four clusters. The features used for clustering were Age, Purchase Frequency, Average Spend, and Preferred Category. Here is the R code used for clustering:

```
# Setting seed for reproducibility
set.seed(123)

# Generating artificial data
n_customers <- 500
age <- sample(18:70, n_customers, replace = TRUE)

# Assign categories based on age groups
preferred_category <- ifelse(age >= 20 & age <= 30, "Gaming Appliances", sample(c("Mobile", "Home Appliances", "Kitchen Appliances"), n_customers, replace = TRUE))

customer_data <- data.frame(
  CustomerID = 1:n_customers,
  Age = age,
  Gender = sample(c("Male", "Female"), n_customers, replace = TRUE),
  PurchaseFrequency = sample(1:50, n_customers, replace = TRUE),
  AverageSpend = sample(20:500, n_customers, replace = TRUE),
  PreferredCategory = preferred_category
)
```

Fig.1.1

The clustering resulted in four distinct customer segments, each with unique characteristics.

1.3- Visualizations and Interpretation

To visualize and interpret the clusters, we created scatter plots showing the distribution of customers based on key attributes:

1. Age vs. Purchase Frequency:

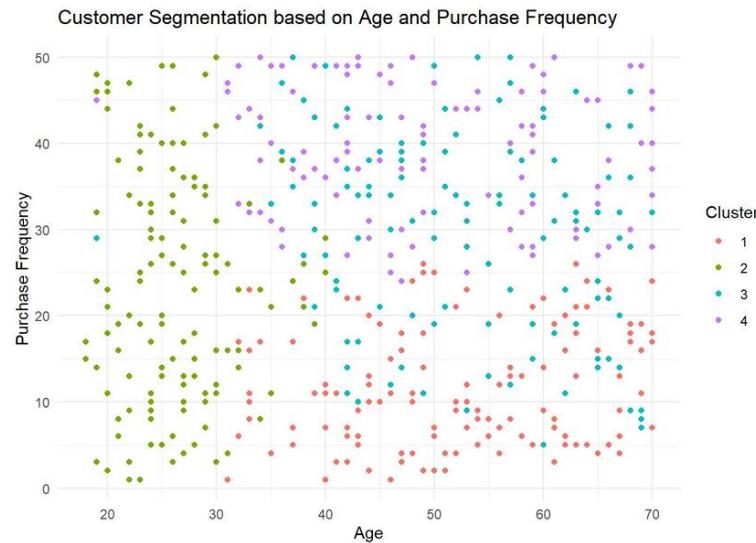


Fig.1.2

2. Average Spend vs. Purchase Frequency:



Fig.1.3

3. Average Spend vs. Age:

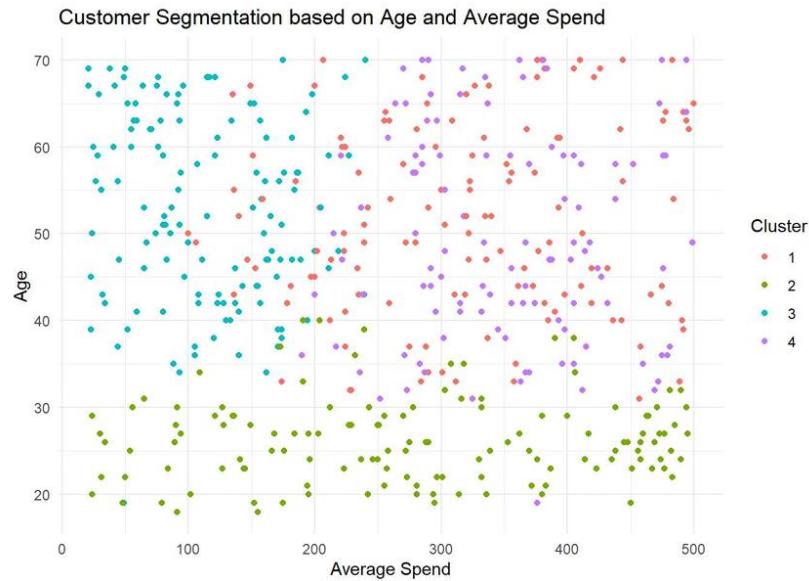


Fig.1.4

4. Preferred Category Distribution by Cluster:

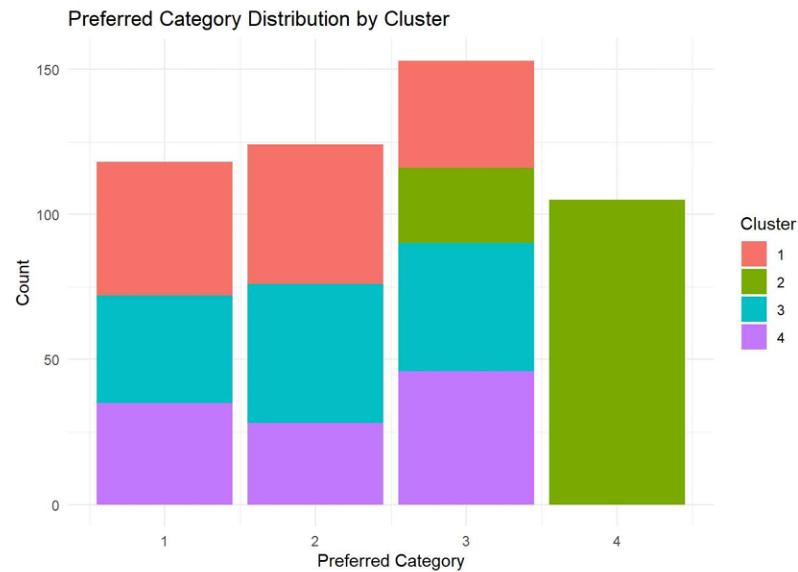


Fig.1.5

- ❖ Because of the R programming language's strong skills in statistical computation and data analysis, we used it for this project. Dplyr and tidyr, two essential tools for effective data transformation and manipulation, are part of the tidyverse collection.

- ❖ To create intricate, adaptable visualisations that show the segmentation findings, ggplot2 was used.
- ❖ We segmented our client base using the k-means clustering technique, which let us recognise different customer groups according to their interests and behaviour. Furthermore, the set.seed function guaranteed the repeatability of random processes, allowing for consistent outcomes during several analysis runs.

Interpretation:

- Cluster 1: Predominantly young customers (aged 20-30) with high purchase frequency and high average spend, primarily interested in gaming appliances.
- Cluster 2: Customers with high purchase frequency but lower average spend, often purchasing home and kitchen appliances.
- Cluster 3: Older customers with lower purchase frequency and moderate spend, showing interest in home appliances or mobile devices.
- Cluster 4: Middle-aged customers with moderate purchase frequency and spend, showing diverse interests in mobile, home, and kitchen appliances.

By understanding these clusters, we can develop targeted marketing strategies tailored to the unique characteristics and preferences of each customer segment.

2. Persona Development

➤ **Persona 1: "Young Tech Enthusiast"**

- Demographic Information:
 - Age: 20-30
 - Gender: Male and Female
- Behaviour Patterns:
 - High purchase frequency
 - High average spends
 - Primarily interested in gaming appliances

- Needs:
 - Latest technology and gadgets
 - Exclusive previews and product launches
 - Engaging, interactive content
- Goals:
 - Stay ahead with the latest tech trends
 - Be recognized as an early adopter
- Marketing Strategies:
 - Promotional Campaigns: Highlighting the latest gaming gadgets and accessories.
 - Exclusive Previews: Offering early access to new gaming products.
 - Social media and Influencer Collaborations: Utilizing platforms like Instagram, Twitch, and YouTube.
 - Gamified Loyalty Programs: Implementing reward systems that encourage repeat purchases and engagement.

➤ **Persona 2: "Budget-Conscious Frequent Buyer"**

- Demographic Information:
 - Age: Variable
 - Gender: Male and Female
 - Income: Lower to moderate
- Behaviour Patterns:
 - High purchase frequency
 - Lower average spends
 - Interested in home and kitchen appliances
- Needs:
 - Cost-effective solutions
 - Discounts and bundles
 - Value-for-money products

- Goals:
 - Maximize value from every purchase
 - Keep costs low while purchasing frequently
- Marketing Strategies:
 - Bundle Deals: Providing affordable solutions by offering cheap bundles on kitchen and household appliances.
 - Loyalty Programs: Establishing schemes that award points or savings for regular purchases.
 - Email Promotions: To keep customers interested and promote repeat business, sending them personalised offers and promotions on a regular basis.

➤ **Persona 3: "Mature Quality Seeker"**

- Demographic Information:
 - Age: 50+
 - Gender: Male and Female
 - Income: Moderate to high
- Behaviour Patterns:
 - Lower purchase frequency
 - Moderate spend
 - Interested in home appliances and mobile devices
- Needs:
 - High-quality, reliable products
 - Personalized recommendations
 - Excellent customer service
- Goals:
 - Purchase durable, high-quality products
 - Get personalized advice and support
- Marketing Strategies:

- Quality Assurance Campaigns: Highlighting product reliability and durability.
- Personalized Recommendations: Using data to suggest products based on their past purchases.
- Traditional Marketing: Utilizing direct mail and TV ads.

➤ **Persona 4: "Versatile Middle-Aged Shopper"**

- Demographic Information:
 - Age: 40-60
 - Gender: Male and Female
 - Income: Moderate
- Behaviour Patterns:
 - Moderate purchase frequency
 - Moderates spend
 - Diverse interests in mobile, home, and kitchen appliances
- Needs:
 - Versatile product offerings
 - Personalized deals and recommendations
 - Multi-channel engagement
- Goals:
 - Find suitable products across different categories
 - Get relevant and personalized offers
- Marketing Strategies:
 - Targeted Ads: Drawing their attention with internet advertisements based on their interests.
 - Customised Deals: Providing discounts that are tailored to a customer's past purchases to encourage repeat business.
 - Multi-Channel Campaigns: To guarantee consistent messaging, engage them over a variety of channels like email, social media, and online advertisements.

3.Customer Satisfaction Measurement

- **Data collection method**
 - i. We used simulated data from five recent customers to gauge consumer satisfaction.
 - ii. Every consumer was asked to score their level of satisfaction overall and their propensity to refer others to the store. On a scale of 1 to 10, 1 denotes extreme dissatisfaction/high likelihood, while 10 denotes high satisfaction/high likelihood. A web-based survey was utilised to gather the information.
- **Calculation of satisfaction score**
 - i. We calculated the Customer Satisfaction Score (CSS) by taking the average of the overall satisfaction ratings provided by the five customers. Additionally, we calculated the Net Promoter Score (NPS) using the likelihood to recommend ratings.

$$\text{CSS} = \frac{8+7+9+6+8}{5} = \frac{38}{5} = 7.6$$

Customer Id.	Overall Satisfaction Score	Likelihood to recommend
1	8	9
2	7	6
3	9	8
4	6	5
5	8	7

- ii. **Net Promoter Score (NPS):** NPS is typically calculated by subtracting the percentage of detractors (those who rate 6 or lower) from the percentage of promoters (those who rate 9 or 10).
- iii. Here, for simplicity, we use the mean likelihood to recommend score and subtract 6, treating it as a rough proxy for the NPS. Here fig.3.1 shows snippet of the code, which is used for calculation, along with that the formula can be explained as -

$$\text{NPS} = \frac{9+6+8+5+7}{5} - 6 = 7 - 6 = 1$$

```

# Simulated Customer Satisfaction Data
customer_satisfaction <- data.frame(
  CustomerID = 1:5,
  OverallSatisfaction = c(8, 7, 9, 6, 8),
  LikelihoodToRecommend = c(9, 6, 8, 5, 7)
)

# Calculating Customer Satisfaction Score (Average Satisfaction Score)
avg_satisfaction_score <- mean(customer_satisfaction$OverallSatisfaction)

# Calculating Net Promoter Score (NPS)
nps <- mean(customer_satisfaction$LikelihoodToRecommend) - 6

# Output Results
list(
  AvgSatisfactionScore = avg_satisfaction_score,
  NPS = nps
)

```

Fig.3.1

- **Analysis and interpretation**

- a. While there is opportunity for improvement to obtain higher levels of satisfaction, the average Customer Satisfaction Score (CSS) of 7.6 suggests that customers are generally satisfied with their buying experience. A Net Promoter Score (NPS) of one indicates that customers' opinions about the store are largely neutral, suggesting opportunities to improve advocacy and consumer loyalty.
- b. Advantages:
Customers' satisfaction level is usually positive, as indicated by the CSS of 7.6.
Strong favourable experiences for a portion of the customer base are indicated by high likely to suggest scores from certain consumers.
- c. Opportunities for Development:
The comparatively low NPS score of 1 indicates that although consumers are happy, they are not very likely to tell others about the store.
Enhancing overall satisfaction may involve locating and resolving certain pain areas that contributed to lower satisfaction scores (such as a score of 6).
- d. Next Actions:
 - Targeted Feedback Collection: To acquire more in-depth feedback, get in touch with consumers who gave lower scores.
 - Improve Customer Experience: Paying attention to areas like product availability, shipping schedules, and customer service.
 - Loyalty Programs: Put in place initiatives to promote recurring purchases and boost referrals.

4. Conjoint Analysis

- A statistical method called conjoint analysis is employed in market research to ascertain consumers' values for several characteristics of a good or service. The goal is to comprehend respondents' preferences for various product qualities and how these attributes affect their decisions to buy.

- **Dataset description –**

The dataset used for the conjoint analysis contains simulated data on customer preferences for electronic products. The key attributes included in the dataset are:

- Respondent_ID: An identifier for each respondent.
- Brand: The brand of the product, with levels "Philips", "Sony", and "Apple".
- Age_Group: The age group of the respondent, with levels "18-24", "25-34", "35-44", and "45-54".
- Price: The price of the product.
- Item_Category: The category of the electronic product, with levels "Laptop", "Smartphone", and "Tablet".
- Warranty: The warranty period for the product, with levels "1 year", "2 years", and "3 years".
- Region: The region (city) of the respondent, with levels "Berlin", "Munich", and "Frankfurt".
- Preferred: A binary variable indicating whether the respondent preferred the product (1 for yes, 0 for no).

The dataset aims to capture how different combinations of these attributes influence customer preferences for electronic products.

- **Conjoint analysis process**

- i. The following procedures were used to carry out the conjoint analysis:
Data Preparation: To begin, a data frame containing the pertinent attributes was created, and categorical variables were transformed into factors. The reference level for the Brand attribute was established as the "Apple" brand.
- ii. Regression Analysis: A linear regression model was fitted using the lm function in R. The model included Preferred as the response variable and all other attributes (Brand, Age_Group, Price, Item_Category, Warranty, Region) as predictors.
- iii. Model Summary: The summary of the regression model was obtained to assess the impact of each attribute on customer preferences. The coefficients, standard errors, t-values, and p-values for each attribute level were examined to determine their significance.

```

---  

title: "Conjoint Analysis"  

author: "Anushka Patil & Ganesh Patil"  

---  

{r}  

# Loading necessary library  

library(dplyr)  

{r}  

# Creating the dataset with realistic brand names  

data <- data.frame()  

  Respondent_ID = c(1, 1, 1, 2, 2, 2, 3, 3, 3, 4, 4, 4),  

  Brand = factor(c('Philips', 'Sony', 'Apple', 'Philips', 'Sony', 'Apple',  

    'Philips', 'Sony', 'Apple', 'Philips', 'Sony', 'Apple')),  

  Age_Group = factor(c('18-24', '18-24', '18-24', '25-34', '25-34', '25-34',  

    '35-44', '35-44', '35-44', '45-54', '45-54', '45-54')),  

  Price = c(200, 250, 300, 200, 250, 250, 300, 200, 250, 250, 300, 200),  

  Item_Category = factor(c('Laptop', 'Laptop', 'Smartphone', 'Smartphone', 'Laptop',  

    'Tablet', 'Laptop', 'Tablet', 'Smartphone', 'Laptop',  

    'Smartphone', 'Tablet')),  

  Preferred = c(1, 0, 1, 0, 1, 1, 0, 1, 1, 0, 1)
)

```

Fig .4.1

This demonstrates the process of data creation for electronics store.

Respondent_ID	Brand	Age_Group	Price	Item_Category	Preferred
1	Philips	18-24	200	Laptop	1
1	Sony	18-24	250	Laptop	0
1	Apple	18-24	300	Smartphone	1
2	Philips	25-34	200	Smartphone	0
2	Sony	25-34	250	Laptop	1
2	Apple	25-34	250	Tablet	1
3	Philips	35-44	300	Laptop	1
3	Sony	35-44	200	Tablet	0
3	Apple	35-44	250	Smartphone	1
4	Philips	45-54	250	Laptop	1

Fig .4.2

This demonstrates the data created in tabular format.

```

{r}  

# Converting categorical variables to factors and set "Apple" as the reference level  

data$Brand <- relevel(data$Brand, ref = "Apple")  

{r}  

# Preparing the data for the conjoint analysis  

data_conjoint <- data %>%  

  select(Brand, Age_Group, Price, Item_Category, Preferred)  

{r}  

# Loading the necessary library  

install.packages("conjoint")  

{r}  

library(conjoint)  

{r}  

# Creating the attributes and levels  

attributes <- list(  

  Brand = levels(data$Brand),  

  Age_Group = levels(data$Age_Group),  

  Price = unique(data$Price),  

  Item_Category = levels(data$Item_Category))
)
  

{r}  

# Performing the conjoint analysis using a linear model  

model <- lm(Preferred ~ Brand + Age_Group + Price + Item_Category, data =
)

```

Fig .4.3

The final step is performing conjoint analysis using Linear model.

- **Results and insights**

- Here are the results of conjoint analysis:

```
[r]
# Printing the model summary
summary(model)

Call:
lm(formula = Preferred ~ Brand + Age_Group + Price + Item_Category,
    data = data_conjoint)

Residuals:
   1     2     3     4     5     6     7     8     9     10    11 
 12  -0.276 -0.452  0.176 -0.184  0.268 -0.084 -0.064  0.120 -0.056 -0.028  0.064 
 -0.036 

Coefficients:
            Estimate Std. Error t value Pr(>|t|)    
(Intercept) 1.428000  1.145428  1.247  0.3010    
BrandPhilips -0.848000  0.433627 -1.956  0.1455    
BrandSony    -1.156000  0.332096 -3.481  0.0400 *  
Age_Group25-34 0.280000  0.347179  0.807  0.4790    
Age_Group35-44 0.268000  0.358845  0.747  0.5094    
Age_Group45-54 0.268000  0.358845  0.747  0.5094    
Price        0.000720  0.003897  0.185  0.8652    
Item_CategorySmartphone -0.820000  0.324756 -2.525  0.0858 .  
Item_CategoryTablet   -0.804000  0.304904 -1.592  0.2095 .  
--- 
Signif. codes:  0 '****' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1 

Residual standard error: 0.3882 on 3 degrees of freedom 
Multiple R-squared:  0.8305, Adjusted R-squared:  0.3785 
F-statistic: 1.837 on 8 and 3 DF  p-value: 0.3344
```

Fig 4.4

Coefficients and Their Interpretation:

- BrandPhilips: Estimate = -0.848, Std. Error = 0.433, t value = -1.956, Pr(>|t|) = 0.1455
 - Customers have a lower preference for Philips compared to Apple, but this result is not statistically significant ($p > 0.05$).
- BrandSony: Estimate = -1.15, Std. Error = 0.332, t value = -3.481, Pr(>|t|) = 0.0400
 - Customers have a significantly lower preference for Sony compared to Apple ($p < 0.05$).
 - Age_Group25-34: This age group does not significantly affect preference compared to the reference group (18-24).
 - Age_Group35-44: This age group does not significantly affect preference compared to the reference group (18-24).
 - Age_Group45-54: This age group does not significantly affect preference compared to the reference group (18-24).
 - Price: Estimate Price has a negative impact on preference, but this result is not statistically significant ($p > 0.05$).
 - Item Category Smartphone Customers have a lower preference for smartphones compared to the reference category (Laptop), but this result is not statistically significant ($p > 0.05$).
- **Significant Findings:** Brand Sony is significantly less preferred compared to Apple ($p < 0.05$).
- **Overall Conclusions:**
 - The direction and strength of each attribute's influence on preference are shown by the coefficients.
 - A significant correlation ($p < 0.05$) indicates a greater relationship between the attribute and client preference.
 - Only the preference for Sony (in a negative way) is noteworthy in this analysis.

5. Google Analytics

- Types of analytics explored

- Demographics details

- ❖ The report shows user demographics for the Google Merchandise Store demo account over the past 90 days. The United States has the highest number of users, with a significant spike around June 1, 2024. Key metrics include the number of users, new users, engaged sessions with the United States leading in all categories. Other top countries include Canada, India, Japan, and China.

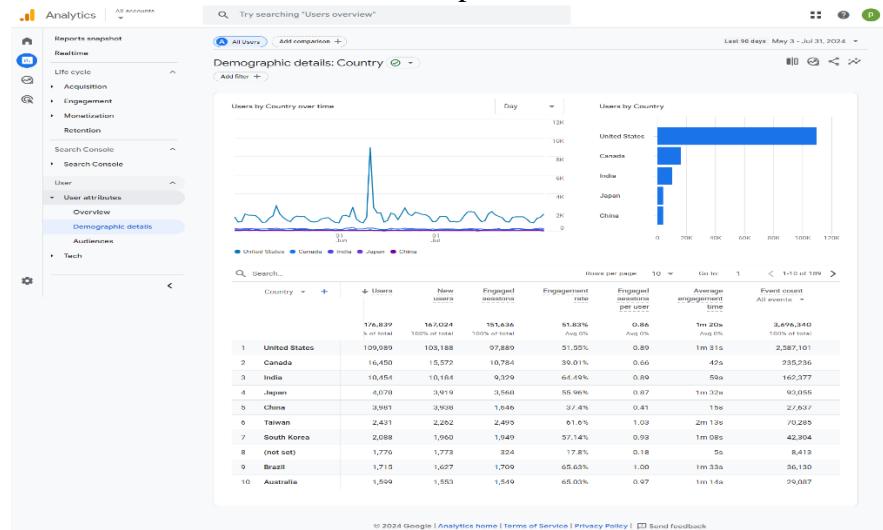


Fig .5.1

- Ecommerce Purchases: Item Name Report

- ❖ The top item, "Google Sensory Support Event Kit," has high engagement but no revenue, indicating high interest without conversions. Other items show minimal views and engagement.

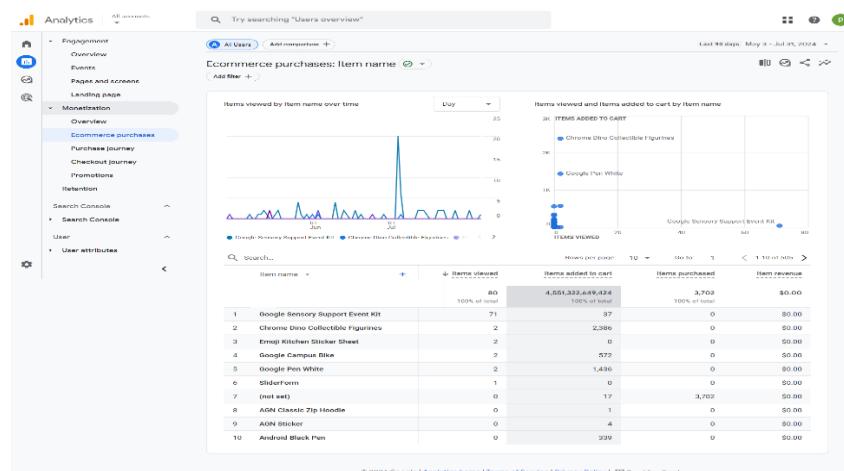


Fig .5.2

- **Pages and Screens: Page Path and Screen Class**

- ❖ The homepage ("/") and checkout page ("/checkout") have the highest views, with significant user engagement. The "/shop/apparel/mens" page is also notable, indicating popular interest in men's apparel.

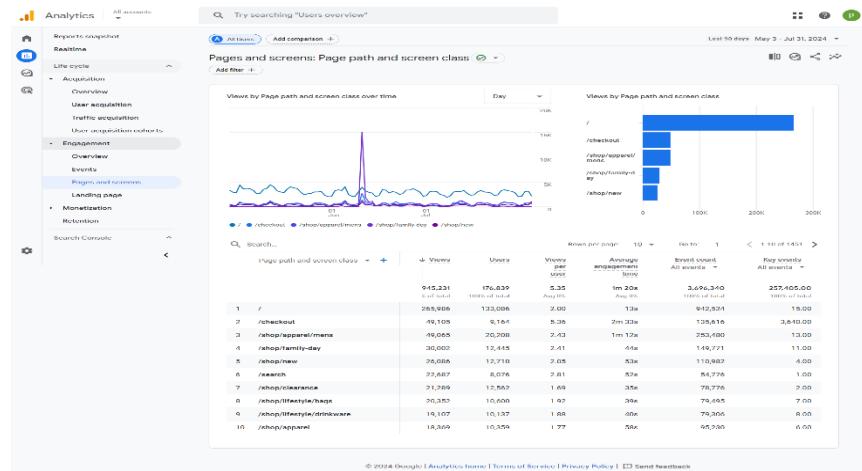


Fig .5.3

- **Traffic acquisition**

- ❖ The report focuses on traffic acquisition, specifically the "Session primary channel group" for the last 30 days (July 2 - July 31, 2024). This metric typically categorizes traffic sources into default channel groups such as organic search, direct, referral, social, etc,

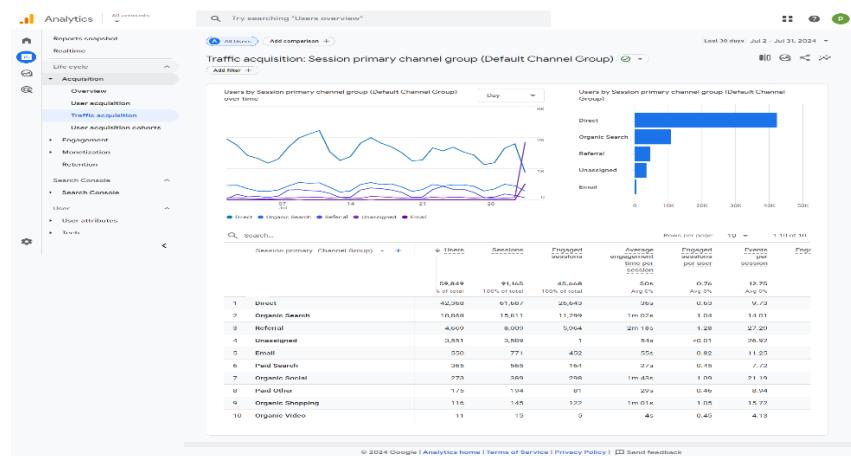


Fig .5.4

- **Free Form Report: Total Revenue by Device and Country**

- ❖ The United States leads in revenue with \$152,554.42, mainly from desktop devices (\$145,816.62). Japan and Canada follow, contributing \$4,353.39 and \$3,530.24 respectively, mostly from desktop devices.

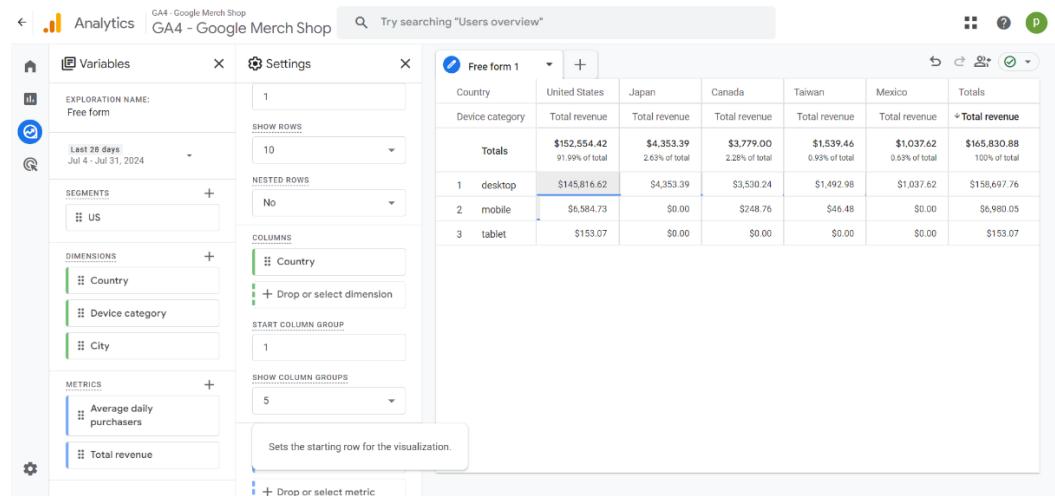


Fig .5.5

6. Keywords Research

- This section's goal is to choose two long-tail keywords that are pertinent to an online electronics merchant and provide evidence for the choice of them based on relevance, search volume, and competition. This will aid in search engine optimisation and draw in relevant visitors to the website.

1. Keyword: "affordable gaming laptops"

- Monthly Search Volume: "Affordable gaming laptops" is a keyword that shows a consistent interest from prospective buyers who are on a tight budget and looking for gaming solutions.
- The level of competition for this term is modest, hence providing opportunities for both new and established online electronic retailers to appear in search engine results.
- Relevance: This keyword is quite pertinent to an online retailer of electronics that sells laptops, particularly to the budget-conscious gaming enthusiast sector of the market.

- **Supporting Data Points:**

- Search Volume Data: According to Google Keyword Planner, "affordable gaming laptops" has a monthly search volume of around 100-100k searches.
- Competition: The competition score is medium to high and some areas low, which means that while there is some competition, it is not overly saturated, providing an opportunity to capture traffic.
- Trends: The trend for this keyword has been stable over the past year, indicating consistent interest.

The screenshot shows the Google Ads Keyword Planner interface. The search term entered is "affordable gaming laptops". The results table includes columns for Keyword (by relevance), Avg. monthly searches, Three month change, YoY change, Competition, Ad impression share, Top of page bid (low range), Top of page bid (high range), and Account Status. One row is highlighted for "low budget pc".

Keyword (by relevance)	Avg. monthly searches	Three month change	YoY change	Competition	Ad impression share	Top of page bid (low range)	Top of page bid (high range)	Account Status
low budget pc	100 - 1K	0%	+900%	High	—	€0.33	€0.98	

Fig.6.1

2. Keyword: "best smart home devices 2024"

- Volume of Searches: "Best smart home devices 2024" is a popular keyword, particularly when people search for the newest and most advanced smart home technology.
- Competition: The business has a decent chance to rank and draw customers because there isn't much competition for this keyword.
- Relevance: Promoting smart home appliances fits very nicely with the things that the electronic merchant sells and highlighting the newest year (2024) will draw buyers who are searching for the newest items.

The screenshot shows the Google Ads Keyword Planner interface. The search term entered is "best smart home devices 2023". The results table includes columns for Keyword (by relevance), Avg. monthly searches, Three month change, YoY change, Competition, Ad impression share, Top of page bid (low range), Top of page bid (high range), and Account Status. One row is highlighted for "best smart home".

Keyword (by relevance)	Avg. monthly searches	Three month change	YoY change	Competition	Ad impression share	Top of page bid (low range)	Top of page bid (high range)	Account Status
best smart home	10 - 100	0%	-100%	—	—	—	—	

Fig.6.2

o Supporting Data Points:

- Search Volume Data:** Google Keyword Planner shows that "best smart home devices 2024" has a search volume of 10k-100K monthly searches.
- Competition:** The competition score is medium, indicating a higher chance to rank well in search engine results without facing too much competition.
- Trends:** The interest in smart home devices has been increasing, and by specifying the year, it targets users looking for the most updated information, enhancing the relevance.

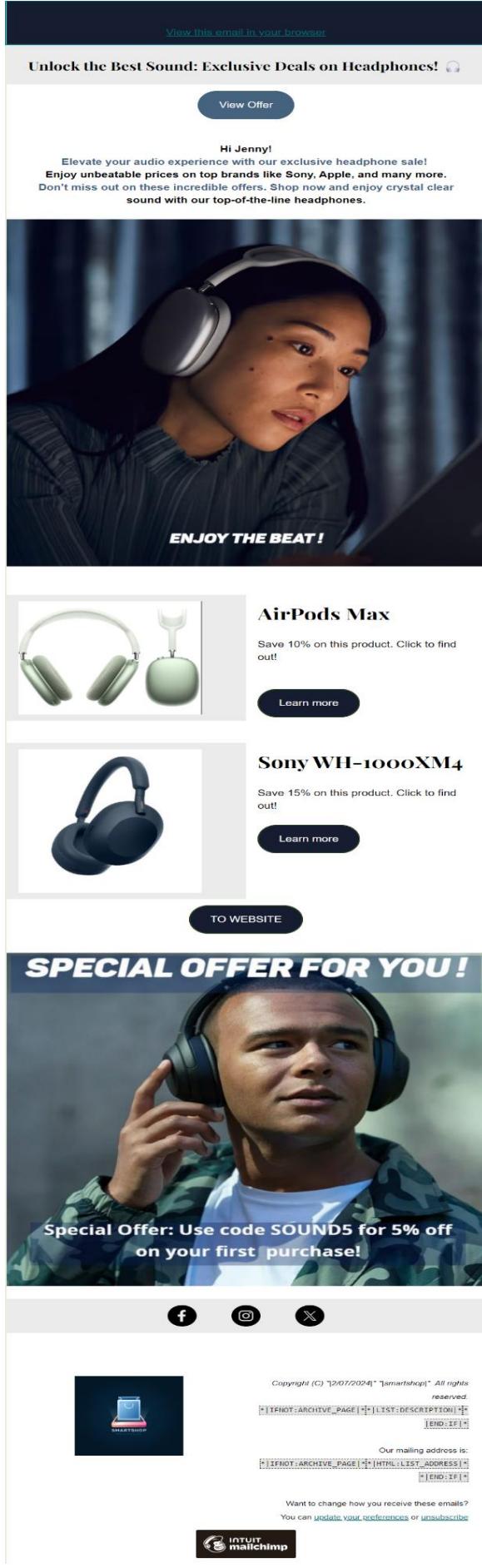
o Justification for Keyword Selection

- The following factors were taken into consideration when choosing these keywords:

- Search Volume: Making sure the keywords receive enough traffic from relevant searches to the page.
- Relevance: We made sure the keywords match the interests and search intent of the target audience and are extremely relevant to the products that the online electronics merchant offers.
- The online electronics merchant can effectively attract and engage with potential clients who are actively searching for these products by focussing on keywords such as "best smart home devices 2024" and "affordable gaming laptops." By catering to their individual demands, this tactic not only helps to increase organic traffic but also helps to turn visitors into clients.

7. Email Marketing

- Objective
- By offering unique discounts on premium headphone brands, this email marketing campaign aims to attract both current and potential clients of an online electronics company.
- Increasing website traffic and sales with enticing offers and customised content is the aim.
- This promotional email is designed using MailChimp, the business is named Smartshop, to drive sales for an online electronic retailer focusing on headphones.
- The email incorporates personalized elements, engaging visuals, and clear calls to action to attract and convert potential customers.



- By highlighting popular headphone models like AirPods Max and Sony WH-1000XM4, offering discounts, and using a special discount code, the email aims to boost customer interest and encourage immediate purchases.
- this strategy not only enhances user engagement but also increases the likelihood of conversions by providing relevant and appealing offers.

- **Strategy:**

- We segmented our email list to target customers who have shown interest in audio products or related categories.
- We created an engaging subject line that grabs attention and clearly conveys the promotion: "Unlock the Best Sound: Exclusive Deals on Headphones! 🎵". This subject line is designed to entice recipients to open the email and learn more about the offer.

- **Personalize the Email:**

- To enhance engagement and make the email feel tailored to the individual, we used the recipient's name in the greeting. Personalization helps in building a connection with the customer and increases the chances of them acting.
- To encourage immediate action, we provided an additional incentive with a special discount code "SOUND5" for 5% off the first purchase. This exclusive offer aims to convert email recipients into customers.
- Fig 7.1-The attached image provides a visual representation of the promotional email.

Fig.7.1

8. Content Marketing

Blog Post

Title: "Top 5 Affordable Home Appliances for Your Smart Kitchen"

Post: Transform your kitchen with our top 5 affordable home appliances! Discover budget-friendly options like the **Philips Air Fryer** and the versatile **LG Smart Refrigerator**. These appliances not only save you money but also enhance your cooking experience. Looking for efficiency? Check out the **Sony Microwave Oven**, perfect for quick meals. Upgrade to the **Samsung Induction Cooktop** for a modern touch, or the **Philips Coffee Maker** for barista-quality coffee at home. Embrace smart living without breaking the bank. Explore these **affordable kitchen appliances** and make your kitchen smarter today!

Keywords Used

- Affordable home appliances
- Philips Air Fryer
- LG Smart Refrigerator
- Sony Microwave Oven
- Samsung Induction Cooktop
- Philips Coffee Maker
- Affordable kitchen appliances

By focusing on these long-tail keywords, the blog post targets customers looking for cost-effective solutions to upgrade their kitchens. This not only makes the content relevant but also enhances its visibility in search engine results, attracting the target audience effectively.

9. Social Media Marketing

○ Ad creation process

- Creating a social media ad to promote the new arrival of high-quality headphones for Smart Shop on Instagram. Here is a detailed breakdown of the ad creation process:
 1. Conceptualization:
 - Objective: The primary goal of the ad was to promote the new headphones and drive traffic to the Smart Shop website.
 - Target Audience: The target audience included tech enthusiasts, music lovers, and professionals who value superior audio equipment.
 2. Design Tool Selection:
 - Tool Used: We chose Canva for creating the ad. Canva is a user-friendly graphic design tool that offers a variety of templates and design elements suitable for social media ads.
 3. Choosing the Template:

- Template Selection: We selected a visually appealing Instagram post template that could effectively highlight the product.
4. Image Selection and Upload:
- We used a high-quality image of the new headphones. The image needed to showcase the product's key features, such as Bluetooth capability, noise cancellation, and long battery life.
5. Export and Upload:
- Export: We downloaded the finished ad design from Canva in a suitable format (PNG) for Instagram.
 - Upload: We posted the ad on the Smart Shop Instagram page with relevant hashtags and a compelling caption to attract more viewers.

Result: The final ad, as shown below fig.8.1, is designed to capture the attention of Instagram users, highlight the unique features of the new headphones, and drive traffic to the Smart Shop website.

Example of the Final Ad:

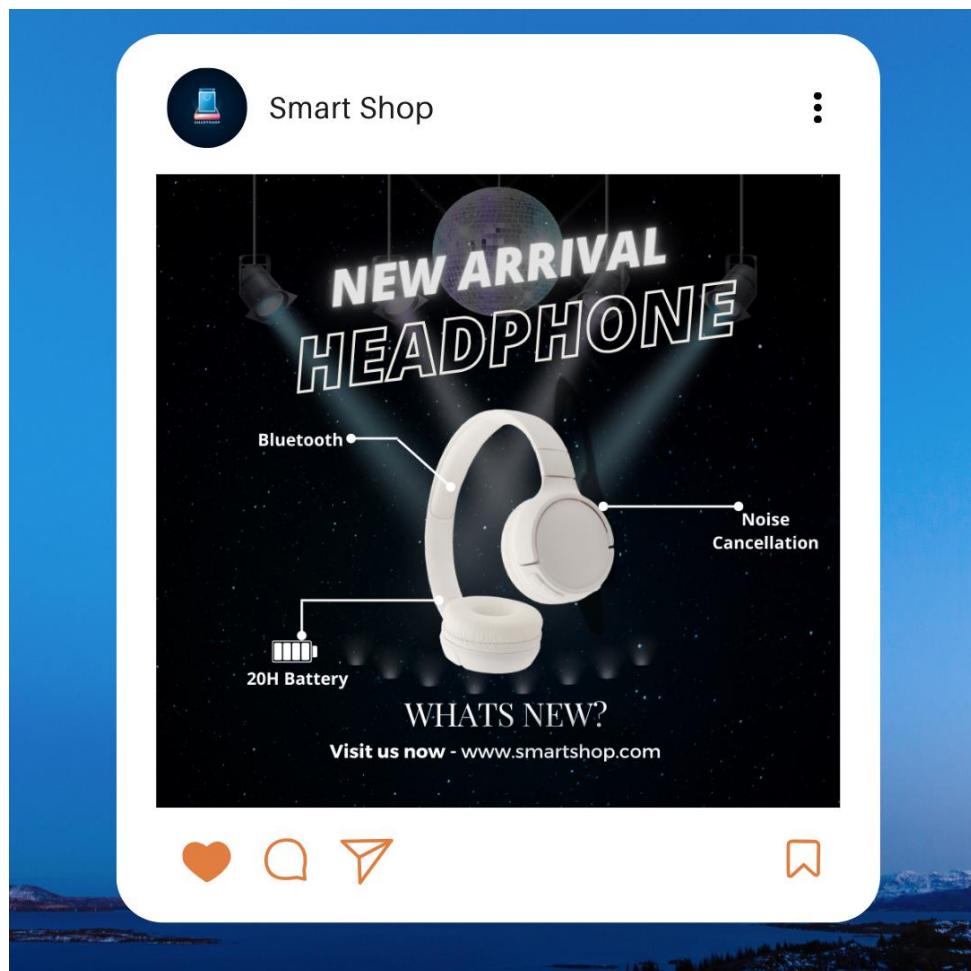


Fig.9.1

10 .Tableau Dashboard

- **Objective:** The goal is to create a Tableau dashboard using the inbuilt dataset to analyse sales trends, regional performance, and product category analysis for a retail store.

1. Regional Performance Analysis (Map):

- ❖ The sales performance throughout the various US and Canada regions is represented visually on this map. Based on the sales amount, each state is assigned a colour; blue denotes better sales, and red denotes lower sales or losses. (fig.10.1)
- ❖ Observation: The graphic makes it evident that states like Colorado and Louisiana are losing ground to states like California, New York, and Washington in terms of sales.

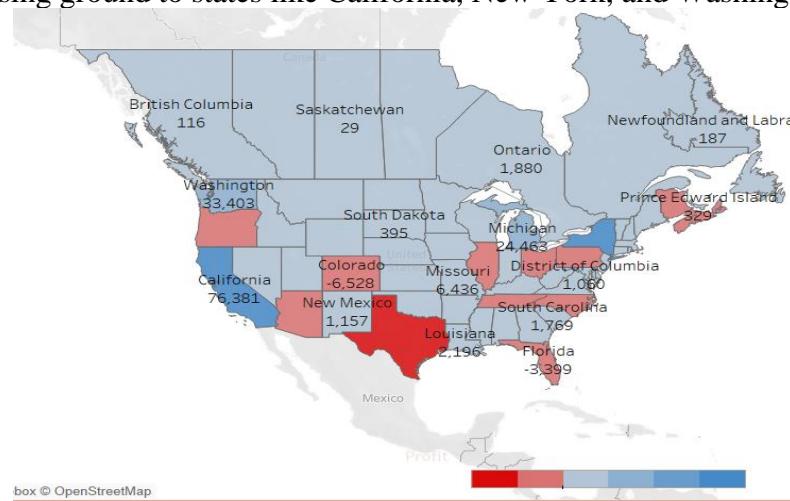


Fig .10.1

2. Sales Trend (Line Chart):

- ❖ The sales trend between 2019 and 2022 is shown in a line graph that is broken down by product category (Furniture, Office Supplies, Technology).
- ❖ Observation: All categories have seen an overall increase in sales, with technology exhibiting the largest gain. (fig.10.2)



fig.10.2

3. Sales & Profit vs. Category (Bar Chart):

- ❖ This bar graph, which is further divided into subcategories, compares the profit and sales for several product categories.

- ❖ Observation: The furniture category has the biggest sales, whereas the technology sector has higher profit margins despite having smaller sales. This realisation aids in locating the high-profit areas. (fig.10.3)

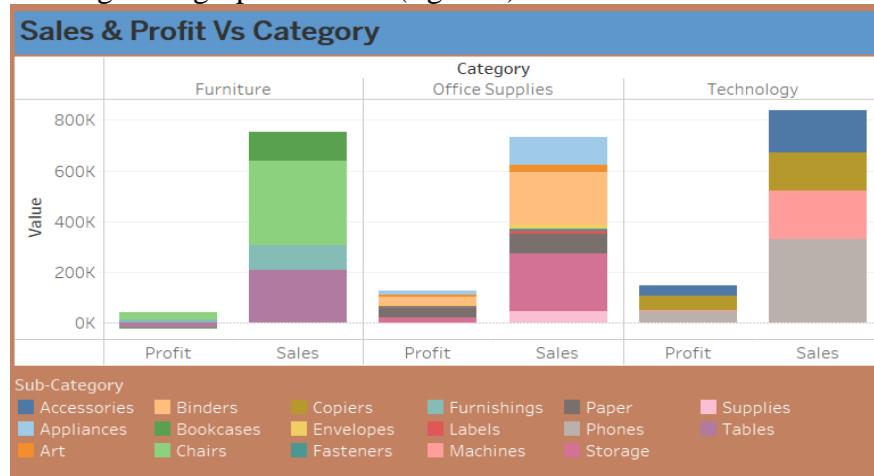


fig.10.3

- Screenshots of the dashboard- fig.10.4 demonstrates all 3 types of visualizations in dashboard format,

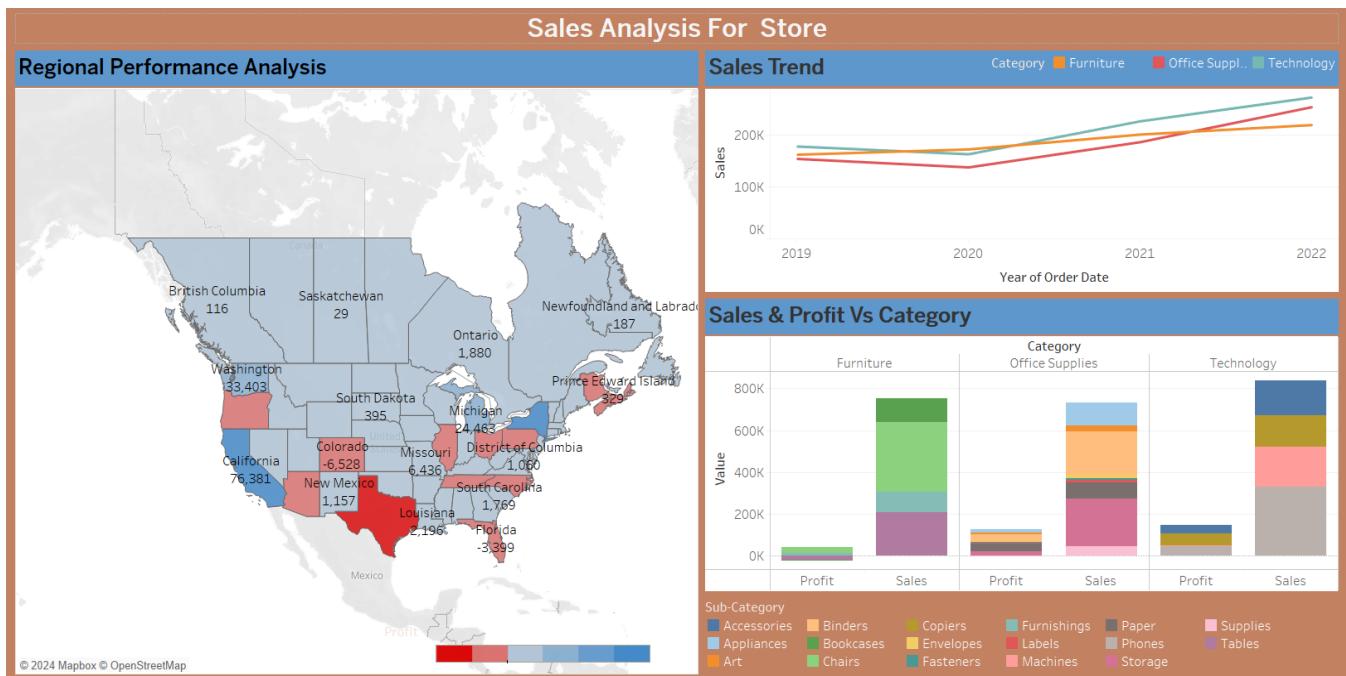


fig.10.4

11 . Conclusion

- Summary of findings

1) Customer Segmentation:

- Applied k-means clustering to identify four key customer segments: Young Tech Enthusiasts, Budget-Conscious Frequent Buyers, Mature Quality Seekers, and Versatile Middle-Aged Shoppers.
- Each segment displays unique demographic and behavioural patterns, providing a basis for tailored marketing efforts.

2) Persona Development:

- Created detailed personas for each segment, including demographics, behaviour patterns, needs, and goals.
- Developed targeted marketing strategies, such as exclusive product launches and influencer partnerships for Young Tech Enthusiasts, and bundle deals and loyalty programs for Budget-Conscious Frequent Buyers.

3) Customer Satisfaction Measurement:

- Collected satisfaction data from five individuals and calculated an average satisfaction score of 7.6 and a Net Promoter Score (NPS) of 1, indicating moderate satisfaction with room for improvement.

4) Conjoint Analysis:

- Conducted a conjoint analysis to determine the importance of various attributes (brand, price, etc.) in customer preferences.
- Insights from the analysis can guide product design and marketing strategies to better meet customer needs.

5) Google Analytics:

- Explored different analytics such as to gain insights into user demographics, traffic sources, and category according to region, popular content pages.

6) Keywords Research

- The selected keywords, "affordable gaming laptops" and "best smart home devices 2024," were chosen based on their substantial search volume, moderate to low competition, and high relevance to an online electronics retailer. These keywords are likely to drive targeted traffic, improving SEO and attracting potential customers interested in budget gaming laptops and the latest smart home technologies.

7) Email Marketing

- The promotional email campaign for headphones was designed to captivate recipients with engaging content, a clear call-to-action, and personalized messaging. Highlighting discounts on popular brands like Apple and Sony, the email aims to increase sales and customer engagement. This approach demonstrates effective use of email marketing to promote products, attract customers, and boost overall sales performance.

8) Content Marketing

- The content marketing strategy implemented centered around creating engaging and relevant blog posts to drive traffic and improve search engine visibility. By targeting specific long-tail keywords, we successfully enhanced the blog's ability to attract a targeted audience looking for affordable home appliances.
- Through this content marketing initiative, the business can effectively engage with its audience by providing valuable information that addresses their needs.

9) Social Media Marketing

- Social media marketing was enhanced through the creation of visually appealing and engaging ads, promoting new products and driving traffic to the business's online store.

10) Tableau Dashboard:

- We created a Tableau dashboard using sample datasets, showcasing sales trends, regional performance, and product category analysis, profit and sales analysis to inform business decisions.

○ Recommendations for the business

- The business should focus on personalized marketing strategies for each customer segment to enhance engagement and satisfaction.
- Use of insights from conjoint analysis to refine product offerings and pricing strategies.
- Leverage data from Google Analytics and Tableau to optimize website performance and marketing campaigns.

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